IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of:	)	Group Art Unit: 2167
	)	
Brian HOLTZ et al.	)	Examiner: Mohammed Ali
	)	
Application No. 10/021,943	)	Confirmation No.: 2740
	)	
Filed: December 12, 2001	)	
	)	
For: METHOD AND SYSTEM FOR	)	
COMPARING AND UPDATING FILE	)	
TREES		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

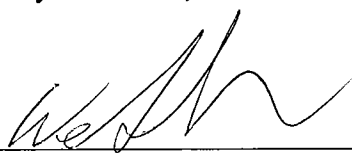## TRANSMITTAL OF APPELLANTS' APPEAL BRIEF

Enclosed in triplicate is Appellants' Appeal Brief for the above-referenced United States Patent Application. Appellants believe that the Brief is in full compliance with 37 C.F.R. §1.192(c). Enclosed is the fee of $500.00 for the filing of this Brief.

This brief is hereby submitted within six months of the date of the Notice of Appeal was received in the United States Patent and Trademark Office. It is not believed that any additional extensions of time or additional fees are required, however, Appellants hereby petition for any such extensions of time found to be required and the Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to Account No. 19-3140. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Dated: February 26, 2007   By: _____
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Attorney Docket No. 30014200-1057

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	Examiner: Mohammad Ali

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APPELLANTS' BRIEF ON APPEAL

Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellants submit this Brief in

support of the Appeal for the above-referenced application.

I.   REAL PARTY IN INTEREST

The real party in interest in the present appeal is the Assignee, Sun Microsystems, a U.S.

corporation. The Assignment was recorded in the U.S. Patent and Trademark Office.

II.   RELATED APPEALS AND INTERFERENCES

There are no related appeals and no related interferences.

III.   STATUS OF CLAIMS

Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are pending in this appeal, of which claims 1, 9, and 17 are independent. Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 stand rejected and are now appealed. A listing of the claims appears in Appendix A.

IV.   STATUS OF AMENDMENTS

A Request For Reconsideration After Final was filed on November 3, 2006, wherein no amendments of the claims were made. An Advisory Action was mailed November 20, 2006, stating that the Request For Reconsideration After Final had been considered but rejected because the Request did not place the application in condition for allowance.

V.   SUMMARY OF INVENTION

Methods and systems in accordance with the present invention generally relate to a method for comparing two file structures and generating a sequence log of changes that will transform a first file structure into a second file structure. A file structure is represented as a tree of file folders, wherein each node may have child nodes that represent subfolders. The root node of the tree, indicating the top-most file folder, has no parent node. An exemplary file tree structure is illustrated in Figure 1 of the patent application.

Independent claim 1 is directed to a method for comparing file tree descriptions. See page 5, lines 3-7 of the patent application. The method comprises the steps of obtaining a first file structure, obtaining a second file structure, and comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220 of the patent

application The method further comprises generating a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and Figure 3, Step 310 of the patent application. The method further comprises optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

Independent claim 9 is directed to a file tree comparator comprising a first file structure configured to be obtained and a second file structure configured to be obtained. See page 5, lines 3-7 and Figure 8, Elements 827, 828, and 829 of the patent application. The file tree comparator further comprises a comparator for comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220 of the patent application. The comparator further generates a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and Figure 3, Step 310 of the patent application. Still further, the comparator optimizes the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

Independent claim 17 is directed to a computer-readable medium storing computer-executable instructions for performing a method of comparing file tree descriptions. See page 5, lines 3-7 and page 13, lines 8-12 of the patent application. The method comprises the steps of obtaining a first file structure, obtaining a second file structure, and comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220 of the patent application. The method further comprises generating a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and

Figure 3, Step 310 of the patent application. The method further comprises optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

In one embodiment in accordance with the present invention, the method recursively walks through the first file tree, comparing each folder's children with corresponding children in the second file tree. See page 7, lines 19-22 and Figure 4 of the patent application. In another embodiment in accordance with the present invention, the sequence log of file tree operations is optimized by transforming multiple file tree operations into a single file tree operation. See page 7, lines 24-27 and Figure 4 of the patent application.

Accordingly, methods and systems in accordance with the present invention present an improved method, device, and computer product for producing a change log for updating a file tree.

VI.   ISSUES

The issue on Appeal is whether claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Michael Man-Hak Tso* (U.S. Patent No. 5,706,509, hereinafter *"Tso"*) in view of *Multer et al.* (U.S. Patent No. 6,925,476, hereinafter *"Multer"*).

VII.   GROUPING OF CLAIMS

The claims do not stand or fall together. Specific arguments as to the separate patentability of selected claims have been presented.

VIII. ARGUMENT

To render a claim unpatenable under 35 U.S.C. § 103(a), the Examiner bears the burden

of establishing a *prima facie* case of obviousness. *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143

(CCPA 1976); *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972). In order to establish a

prima facie case of obviousness, all of the claim limitations must be taught or suggested by the

prior art. *See* MPEP 2143.03, *citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

In the present application, the cited prior art fails to teach or suggest all of the limitations of any

of pending claims 1-24. Thus, the Examiner has failed to establish a *prima facie* case of

obviousness for any of pending claims 1-24. Accordingly, the rejection of claims 1-24 should be

reversed.

A. Claims 1, 9, and 17 Are Patentable Over the Combination of *Henson* and *Odom*

> *1. Tso fails to teach or suggest "replacing the creation operation and the
> deletion operation with a reparent operation."*

Applicants respectfully submit that *Tso* and *Multer*, alone or in combination, fail to teach

or suggest every limitation of amended claim 1. For example, the cited references fail to teach

"optimizing the sequence log of changes by detecting a creation operation and a deletion

operation associated with the same file *and replacing the creation operation and the deletion*

operation with a reparent operation" (emphasis added). The Examiner contends that *Tso*

teaches the emphasized limitation at col. 12, ll. 59-65 and Fig. 4a. The cited text of *Tso* is

repeated below:

> If Rn is not marked UPDATE or CREATE, and in step 956 if Rn is
> marked DELETE, then in step 958 Rn is deleted in D1' (using the
> steps illustrated in FIG. 11a). In step 944, Rn is marked as DONE
> and the next record Rn in CL0 is processed. Back in step 928, if Rn

is not marked as CREATE, then the general steps illustrated in
FIG. 9c are followed.

Applicants respectfully submit that *Tso* says nothing there of a reparent operation, nor

does it mention replacing a creation operation and deletion operation with a reparent operation.

To the best of Applicants' knowledge, *Tso* does not disclose a reparent operation, or even the

equivalent thereof, anywhere in the patent.

2. Examiner failed to provide explicit reference in Tso.

In the Response After Final filed November 3, 2006, Applicants asked that, if the

rejection is maintained, the Examiner provide clarification on what the Examiner regards as the

reparent operation, and precisely where *Tso* teaches or suggests replacing a creation and deletion

operation with a reparent operation. Under 37 C.F.R. § 1.104(c)(2), Applicants argued that a

more precise explanation of the rejection was due in order to advance prosecution. "When a

reference is complex or shows or describes inventions other than that claimed by the applicant,

the particular part relied on must be designated as nearly as practicable." 37 C.F.R. §

1.104(c)(2). Applicants respectfully submitted that the Examiner had failed to rebut Applicants'

argument.

3. Tso neither expressly nor inherently teaches or suggests "replacing the creation operation and the deletion operation with a reparent operation."

In response to Applicants' argument in the Response After Final, the Examiner issued an

Advisory Action mailed November 20, 2006. Applicants respectfully submit that the remarks in

the Advisory Action still fail to rebut Applicants' prior arguments. Much of the Examiner's

response is directed to case citations regarding the motivation to combine references. However,

Applicants argued that *neither* of the references teach or suggest the above-cited limitation. The

relevant portion of the Examiner's response is recited here:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw there from." *In re Preda*, 401 F.2d 825, 826,159 USPQ 342, 344 (CCPA 1968). Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference(s) applied and cited.

To the best of Applicants' understanding, the Examiner is arguing that the above-cited limitation is implicit in *Tso*. In the *Preda* case, a process for catalytically producing carbon disulfide by reacting sulfur vapor and methane in the presence of charcoal at a temperature of "about 750-830C" was found to be met by a reference which expressly taught the same process at 700C because the reference recognized the possibility of using temperatures greater than 750C. The reference disclosed that catalytic processes for converting methane with sulfur vapors into carbon disulfide at temperatures greater than 750C (albeit without charcoal) was known, and that 700C was "much lower than had previously proved feasible." That is not like the present case. *Tso* does not imply or recognize the possibility of "optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file *and replacing the creation operation and the deletion operation with a reparent operation.*" Nor does the Examiner explain why one of ordinary skill in the art would infer such a teaching.

In a second point, to the best of Applicants' understanding, the Examiner appears to argue that the rejection of some or all of the above limitation need not be explained because it is "peripheral." In the Advisory Action, the Examiner states "[i]t is logical for the examiner to focus on the limitations that are "crux of the invention" and not involve a lot of energy and time for the things that are not central to the invention, but peripheral." Applicants respectfully submit, in response, that, to establish a case of prima facie obviousness, the Examiner is required to establish that all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, Applicants do not regard the

above-cited limitation as "peripheral." See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

4. Multer also fails to teach or suggest "replacing the creation operation and the deletion operation with a reparent operation"

The Examiner does not contend that *Multer* teaches or suggest the emphasized limitation. However, Applicants note that *Multer* does not in fact teach or suggest this limitation. To the best of Applicants' knowledge, Multer does not disclose a reparent operation, or even the equivalent thereof, anywhere in the patent. Even if *Multer* did teach optimizing a sequence log of changes, which Applicants do not concede, *Multer* does not optimize the sequence log in the way presented in claim 1, *i.e.*, by "replacing the creation operation and the deletion operation with a reparent operation." Thus, the combination of *Tso* and *Multer* fails to teach or suggest every limitation of claim 1. Accordingly, *prima facie* obviousness has not been established, and the rejection should be withdrawn.

Claims 9 and 17 recite limitations similar to those of claim 1, and are therefore patentable for at least the same reasons as given for claim 1. The cited text provides no support for the Examiner's assertions. Thus, the Examiner has failed to establish *prima facie* obviousness with respect to claim 1. By similar reason, the Examiner has failed to establish *prima facie* obviousness with respect to claims 9 and 17. Accordingly, the rejection of claims 1, 9, and 17 is erroneous and should be reversed.

B. Claims 2, 10, and 18 Are Patentable Over the Combination of *Tso* and *Multer*

1. Tso fails to teach or suggest "recursively walking said first file structure."

The Examiner erroneously asserts that *Tso* teaches "recursively walking said first file structure." In support of this assertion, the Examiner points to Col. 4, Lines 55-62 of *Tso*, which states:

> That is, D1' is synchronized in turn with D2', D3', and D4', then D2' is synchronized with D1', D3' and D4', etc. A more efficient implementation would run the Change Detection Method outlined in this invention on each of the data sets, and then merge the Change Lists (CL1, CL2, CL3, CL4). Thus, the present invention's method and apparatus for a two way synchronization also provides synchronization among any number of data sets (i.e. files).

However, neither this nor any other part of *Tso* teaches or suggests recursively walking through a file structure. *Tso* is directed to the synchronization of data sets. While *Tso* discloses that the data sets may be logically stuctured, *Tso* does not teach or suggest that these data set structures should be recursively walked through in order merge them; that is, a recursive walk is unecessary, as would be the case with a linked list. See Col. 4, Lines 23-26 of *Tso*. In fact, the entirety of *Tso* fails to include any form of the word "recursive." Moreover, *Multer* also lacks any occurrence of the word "recursive." Thus, the Examiner has failed to establish *prima facie* obviousness with respect to claim 2. By similar reasoning, the Examiner has also failed to establish *prima facie* obviousness with respect to claims 10 and 18. Accordingly, the rejection of claims 2, 10, and 18 are erroneous and should be withdrawn.

C. All Other Claims Are Patentable Over the Combination of *Tso* and *Multer*

Claims 4-6, 12-14 and 20-22 depend from claims 1, 9, and 17, and are therefore patentable for at least the same reasons as given for claims 1, 9, and 17.

IX.   Conclusion

Applicants respectfully submit that the outstanding rejections should be reversed, and that the application is in condition for allowance.

Respectfully submitted,

Dated: February 26, 2007   By: _____

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APPENDIX A: Claims on Appeal

1.   (Previously Presented) A method for comparing file tree descriptions comprising:

obtaining a first file structure;

obtaining a second file structure;

comparing said first file structure to said second file structure;

generating a sequence log of changes that transform said first file structure to said second file structure; and

optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.

2.   (Original) The method of claim 1 wherein said comparing further comprises: recursively walking said first file structure.

3.   (Canceled).

4.   (Original) The method of claim 1 wherein said first file structure is a file tree index.

5.   (Original) The method of claim 1 wherein said second file structure is a file tree index.

6.   (Original) The method of claim 1 wherein said comparing further comprises: comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

7.   (Canceled)

8.   (Canceled)

9.   (Previously Presented) A file tree comparator comprising:

a first file structure configured to be obtained;

a second file structure configured to be obtained; and

a comparator for

comparing said first file structure to said second file structure; and

generating a sequence log of changes that transform said first file structure to said second file structure; and

optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.

10.   (Previously Presented) The file tree comparator of claim 9 wherein comparing further comprises:

recursively walking said first file tree structure.

11.   (Canceled)

12.   (Original) The file tree comparator of claim 9 wherein said first file structure is a file tree index.

13. (Original) The file tree comparator of claim 9 wherein said second file structure is a file tree index.

14. (Previously Presented) The file tree comparator of claim 9 wherein comparing further comprises:

comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

15. (Canceled)

16. (Canceled)

17. (Previously Presented) A computer-readable medium storing computer-executable instructions for performing a method of comparing file tree descriptions, said method comprising:

obtaining a first file structure;

obtaining a second file structure;

comparing said first file structure to said second file structure;

generating a sequence log of changes that transform said first file structure to said second file structure; and

optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.

18.   (Currently Amended) The computer-readable medium of claim 17, wherein comparing further comprises:

recursively walking said first file structure.

19.   (Canceled)

20.   (Previously Presented) The computer-readable medium of claim 17 wherein said first file structure is a file tree index.

21.   (Previously Presented) The computer-readable medium of claim 17 wherein said second file structure is a file tree index.

22.   (Previously Presented) The computer-readable medium of claim 17 wherein comparing further comprises:

comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

23.   (Canceled)

24.   (Canceled)

APPENDIX B: Evidence

None.

APPENDIX C: Related Proceedings

None.